REMARKS/ARGUMENTS

The claims are 1 and 17-20. Claim 1 has been amended to better define the invention and to incorporate the subject matter of claim 2. Accordingly, claim 2 has been canceled. In addition, claims 3-6 have been canceled, along with claims 7-16 which were withdrawn from consideration by the Examiner as directed to a non-elected invention. New claims 17-20 dependent directly or indirectly on claim 1 have also been added. Support for the claims may be found, *inter alia*, in the disclosure at pages 1 and 4-10 and the drawings. Reconsideration is expressly requested.

Claims 1 and 2 were rejected under 35 U.S.C. 102(b) as being anticipated by or in the alternative under 35 U.S.C. 103(a) as being obvious over *Shibata et al. U.S. Patent No. 4,902,419* or *Geleff et al. U.S. Patent No. 5,840,230*. Claims 1-6 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Mahendran et al. U.S. Patent No. 6,294,039*.

In response, Applicants have amended claim 1 to specify that the spacer is a perforated plate of an elastomeric material and respectfully traverse the Examiner's rejection for the following reasons.

Applicants believe that it would be helpful to the Examiner to consider the background against which Applicants' invention as recited in claim 1 as amended was made as well as the benefits achieved by the membrane filter unit recited therein.

Applicants' invention as set forth in claim 1 as amended generally relates to a membrane filter unit for liquid or gaseous media including a bundle of an arbitrarily arranged multiplicity of capillary membranes that are open on at least one front end. Such membrane filter units are generally known from *Shibata et al.* and *Mahendran et al.* The known membrane filter unit includes capillary membranes, which, with their protruding ends, are arranged in a spacer and which are cast into a hardening sealing layer to form a firm headpiece for the membrane filter unit. The problem with the known membrane filter unit is that the membranes are very fragile. Any mechanical strain exerted vertically on the capillary membranes can damage the membranes at the edges of the range spacer. During the filtering process the membranes are moving, and especially strong movements occur when turbulences are produced in the liquid to be filtered in order to remove covering layers from the membrane surfaces. The clamping region of the membranes near the headpiece presents a particularly critical area where damage of the capillary membranes resulting from their vibration or movement is frequently

observed.

Applicants' membrane filter unit as recited in claim 1 as amended is directed to presenting a membrane filter unit where the risk of mechanical damage to the capillary membranes in the clamping region near the headpiece is reduced.

As recited in Applicants' claim 1 as amended, this object is achieved by using as spacer a perforated plate of elastomeric material, the perforations of which enclose the capillary membranes essentially without any gaps. See page 6, line 10 of Applicants' disclosure where the use of an elastomeric material is disclosed. In this way, the risk of mechanical damage to the capillary membranes can be significantly reduced, because the clamping region for the capillary membranes is resilient and acts as a shock absorber during lateral movement of the capillary membranes. Any severe shearing stress can thus be kept away from the capillary membranes.

None of the cited references discloses or suggests a membrane filter unit for liquid or gaseous media in which a perforated plate of elastomeric material is used as a spacer.

Shibata et al. relates to a product and a method for fastening securely by a simple procedure soft, porous tubes. The spacer provided for the tubes is not further described.

According to *Geleff et al.*, a perforated plate is provided which is removed after hardening of a casting mass. Hence, the complete membrane filter unit as final product does not include this perforated plate. The material and the properties of the perforated plate are not addressed in *Geleff et al.* Nevertheless, the tube plate with the embedded hollow fibers is easily raised to a desired distance from the perforated plate. See column 5, lines 14 to 18 of *Geleff et al.* To allow the removal of the perforated plate without damaging the fixed hollow fibers, the perforated plate must be made of a rigid material, wherein at least a small gap between the fibers and the openings of the plate has to be provided.

According to *Mahendran et al.*, the fibers do not penetrate the openings of a spacer. Rather, the fibers are connected by a strip coated with an adhesive. The strip might be flexible but does not include any elasticity. To achieve a sealing of the membranes the adhesive is needed in addition to the strips.

Accordingly, it is respectfully submitted that claim 1 as amended, together with claims 17-20 which depend directly or indirectly thereon, are patentable over the cited references.

In summary, claim 1 has been amended, claims 2-16 have been canceled, and new claims 17-20 have been added. In view of the foregoing, it is respectfully requested that the claims be allowed and that this application be passed to issue.

Respectfully submitted,
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Amy Klein

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